

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 01 May 2001 (01.05.01)	
International application No. PCT/GB00/03072	Applicant's or agent's file reference IPD/P2755/WOD
International filing date (day/month/year) 09 August 2000 (09.08.00)	Priority date (day/month/year) 06 September 1999 (06.09.99)
Applicant TREEN, Andrew, Shaun et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 01 February 2001 (01.02.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer S. Mafla Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

BOWDERY, A., O.
Qinetiq Limited
IP Formalities
A4 Bldg., Cody Technology Park
Ively Road, Farnborough
Hampshire GU14 0LX
ROYAUME-UNI

Date of mailing (day/month/year) 25 October 2001 (25.10.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference IPD/P2755/WOD	
International application No. PCT/GB00/03072	International filing date (day/month/year) 09 August 2000 (09.08.00)

1. The following indications appeared on record concerning:

☐ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address

THE SECRETARY OF STATE FOR DEFENCE
Defence Evaluation Research Agency
A4 Building
Ively Road
Farnborough
Hampshire GU14 0LX
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person ☐ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address

QINETIQ LIMITED
85 Buckingham Gate
London SW1 6TD
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

The agent's address has been changed accordingly.

4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Maria Victoria CORTIELLO

Telephone No.: (41-22) 338.83.38

PCT

WIPO

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference IPD/P2755/WOD		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/03072	International filing date (day/month/year) 09/08/2000	Priority date (day/month/year) 06/09/1999	
International Patent Classification (IPC) or national classification and IPC G01L19/08			
Applicant QINETIQ LIMITED THE SECRETARY OF STATE FOR DEFENCE et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 8 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 01/02/2001	Date of completion of this report 13.12.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Juárez Colera, M Telephone No. +49 89 2399 2482 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/03072

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-8 as originally filed

Claims, No.:

1-18 as received on 26/10/2001 with letter of 26/10/2001

Drawings, sheets:

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☒ the claims, Nos.: 19

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/03072

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:
see separate sheet

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-18
	No: Claims
Inventive step (IS)	Yes: Claims
	No: Claims 1-18
Industrial applicability (IA)	Yes: Claims 1-18
	No: Claims

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item I

Basis of the report

This report is based on amended claims 1-18, sent with letter of 26.10.01, and corresponding to page numbered as 8 and 9. This numbering is however not compatible with the originally filed documents in which page 8 corresponds to the last page of the description. The page numbers corresponding to the amended claims should be 9 and 10.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Prior art

Reference is made to the following documents:

- D1: GB-A-2 229 003 (NITTO KOHKI CO LTD) 12 September 1990 (1990-09-12)
- D2: US-A-3 703 879 (C.K. HUTHSING, JR.) 28 November 1972 (1972-11-28)
- D3: GB-A-2 069 139 (HISANORI WARIHASHI) 19 August 1981 (1981-08-19)
- D4: DE 296 16 337 U (T.-T. HUANG) 7 November 1996 (1996-11-07)

2 Article 33 (1) and (2) PCT (Novelty)

- 2.1 The document D1, which is considered to represent the most relevant prior art, discloses (cf. abstract; pg. 6, l. 20 - pg. 7, l. 6; pg. 7, l. 15 - pg. 9, l. 20; pg. 10, l. 2 - pg. 12, l. 10 and Figs. 2 and 3) a pressure indicator comprising a flat light shielding member 18 consisting on a bag 19, the bag forming a compartment delimited by the sides of the bag (display and indicator diaphragms), filled with a liquid, wherein, in use, a change in pressure applied to a first side of the bag causes a relative movement between the two sides of the bag which is detectable on or through the second side of the bag.
- 2.2 The subject matter of claim 1 differs from that D1 in that the indicator diaphragm bears a configuration or pattern suitable to allow detection of the relative movement between both diaphragms by the configuration or pattern abutting or

becoming visible through the display diaphragm when, in use, such a movement occurs.

- 2.3 The subject matter of claim 1 is therefore new.
- 2.4 Claims 2-16 and 18 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty.
- 2.5 Claim 17 concerns to the method of indicating pressure with the apparatus of claims 10-16 and therefore it also meets the requirements of the PCT with respect to novelty.

3 Article 33 (1) and (3) PCT (Inventive Step)

- 3.1 The present application does not meet the requirements of Article 33 (1) and (3) PCT, because the subject-matter of claims 1-18 does not involve an inventive step (Rule 65(1),(2)) PCT. The reasons are as follows:
- 3.2 Taking into account the above paragraphs 2.1 and 2.2, the problem to be solved by claim 1 of the present application may therefore be regarded as providing alternative means for detecting the relative movement between the both diaphragms.
- 3.3 The solution to this problem consisting in the provision of a configuration or pattern forming part of the indicator diaphragm has already been proposed in documents D2 (cf. abstract; col. 2, l. 47-65; col. 6, l. 16-36 and 53-61 and Figs 6-9) and D3 (cf. abstract; pg. 1, l. 111-126; pg. 2, l. 41-65 and Figs. 1 and 5a-7e). Both documents disclose pressure indicators including a diaphragm (34 in D2 and 26 in D3), equivalent to the indicator diaphragm of the present application and bearing a pattern consisting on symbols projecting from its surface towards the display surface (71 and 16 in D2 and D3 respectively) when a difference in pressure is applied.
- 3.4 The above mentioned feature is described in these documents as providing the same advantages as in the present application. The skilled person would

therefore regard it as a normal option to include this feature in the apparatus described in document D1 in order to solve the problem posed. The subject matter of claim 1 does therefore not involve an inventive step.

- 3.5 The pressure indicator of D1 also includes means to amplify the relative movement between the diaphragms forming the bag consisting on an article 12 having a first surface 16 and a second surface 14 having a larger cross-sectional area than the first surface and biased against a rigid structure 2 by spring 23, wherein the first surface is in fluid communication with one of the diaphragms and, in use, a change in pressure applied to the second surface 14, causes an amplified movement of the first surface 16. Furthermore the second surface (the display diaphragm) of the bag 19 of the device disclosed in D1 is transparent and the bag contains an opaque liquid.

The subject matter of dependent claims 2, 3, 5-9 is therefore also not inventive.

- 3.6 The additional features introduced by dependent claims 10, 11 and 13 are also disclosed in D2 and D3 where the mentioned patterns comprise at least two components with different visibility and consisting on symbols projecting from its surface towards the display surface. Consequently, these claims cannot be considered inventive either.
- 3.7 Concerning claims 16 and 18, the pressure indicators disclosed in documents D3 and D4 are inflatables, particularly a ball in the case of D4. Therefore the subject matter of these claims is also not inventive.
- 3.8 In claims 4, 12, 14 and 15 slight constructional changes in the device of claim 1 are defined which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of these claims also lacks an inventive step.
- 3.9 Finally, concerning independent method claim 17, it is directly followed from the above reasoning that the method of indicating pressure with such apparatus is also not inventive.

4 Article 33 (1) and (4) PCT (Industrial Applicability)

The subject matter of claims 1-18 is susceptible of industrial application.

Re Item VII

Certain defects in the international application

- 1 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D4 is not mentioned in the description, nor are these documents identified therein.
- 2 The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 3 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Re Item VIII

Certain observations on the international application

Article 6 PCT (Clarity)

- 1 The feature of "the relative movement between the two diaphragms being *observable when* the pattern or configuration abuts or becomes visible through the display diaphragm" in the apparatus claim 1 relate to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.
- 2 Claim 3 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved which merely amounts to a

statement of the underlying problem. The technical features necessary for achieving this result should be added. In particular the following feature is concerned: "a change in pressure applied to the second surface causing an amplified movement of the first surface".

- 3 The terms "recognisable", "configuration or pattern" and "components" as used in claims 1 and 11-13 are vague and unclear and leave the reader in doubt as to the meaning of the technical features to which they refer, thereby rendering the definition of the subject-matter of said claims unclear.
- 4 Dependent claim 18 refers back to the pressure indicator of "any preceding claim", however, claim 17 does not define any pressure indicator (Rule 6.4(c), PCT Guidelines IV-III-3.6).

PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference IPD/P2755/WOD	FOR FURTHER ACTION see Notification of Transmittal of International Search Report, (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 00/ 03072	International filing date (day/month/year) 09/08/2000	(Earliest) Priority Date (day/month/year) 06/09/1999
Applicant THE SECRETARY OF STATE FOR DEFENCE		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of Invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

CT/GB 00/03072

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01L19/08 G01L19/12 G01L17/00 G01L7/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01L A63F A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 189 979 A (C.H. POPENOE) 2 March 1993 (1993-03-02) the whole document ---	1-4, 7-9, 16, 18
X	GB 2 229 003 A (NITTO KOHKI CO LTD) 12 September 1990 (1990-09-12) page 10, line 2 -page 12, line 19; figures ---	1-9, 16, 18
X	US 3 703 879 A (C.K. HUTHSING, JR.) 28 November 1972 (1972-11-28) the whole document ---	1, 7-11, 15, 16, 18
X	DE 296 16 337 U (T.-T. HUANG) 7 November 1996 (1996-11-07) the whole document ---	1, 7, 10, 16-19

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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

31 October 2000

Date of mailing of the international search report

07/11/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Van Assche, P

INTERNATIONAL SEARCH REPORT

International Application No

CT/GB 00/03072

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 069 139 A (HISANORI WARIHASHI) 19 August 1981 (1981-08-19) page 2, line 41 - line 65; figures ---	1, 7, 10-12, 15-18
X	US 2 938 379 A (C.K. REH) 31 May 1960 (1960-05-31) the whole document ---	1, 7-9, 16-18
A	US 2 536 321 A (A.J. SMITH ET AL.) 2 January 1951 (1951-01-02) column 4, line 23 - line 33; figures ---	1
A	US 2 325 490 A (H.O. ELFTMAN) 27 July 1943 (1943-07-27) the whole document ---	18
A	EP 0 001 120 A (AMERACE CORPORATION) 21 March 1979 (1979-03-21) abstract; figures -----	1, 12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/03072

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5189979	A	02-03-1993	NONE	
GB 2229003	A	12-09-1990	JP 1930919 C JP 2236430 A JP 6060859 B DE 4007388 A KR 9305165 B US 5014786 A	12-05-1995 19-09-1990 10-08-1994 13-09-1990 16-06-1993 14-05-1991
US 3703879	A	28-11-1972	NONE	
DE 29616337	U	07-11-1996	US 5677492 A	14-10-1997
GB 2069139	A	19-08-1981	DE 3104081 A FR 2475726 A US 4366708 A	24-12-1981 14-08-1981 04-01-1983
US 2938379	A	31-05-1960	NONE	
US 2536321	A		NONE	
US 2325490	A	27-07-1943	NONE	
EP 1120	A	21-03-1979	US 4166429 A US 4166430 A BE 22 T DE 2857183 A FR 2434380 A GB 2041527 A NL 7815019 A NL 7815019 T CA 1110085 A	04-09-1979 04-09-1979 11-01-1980 21-02-1980 21-03-1980 10-09-1980 31-10-1979 31-10-1979 06-10-1981